Birds of Prev

Objective: Using this *Project Wild* activity, students will examine the relationship between predator and prey populations. Students will predict the role that natural changes in cycles play in determining the life cycle of animals.

Background: The Birds of Prev Natural Area along the Snake River in Idaho hosts the largest concentration of nesting prairie falcons in the world. These raptors, prairie falcons, prey upon ground squirrels that live in the flatlands below the cliffs of the Snake River. Therefore, when the prey population is high, after a short lag, the predator population becomes high. Falcons nest in huge groups in the late spring and early summer. The population increases until there are no more nesting sties. Since the falcons feed primarily on ground squirrels, the squirrels determine the number of falcons that are able to nest in the area. As the summer goes on, temperatures increase and around July 4th the temperature is too high for the squirrels. The squirrels then enter a summer hibernation or aestivation period. Without the squirrels, the falcons have to move somewhere else to find another prey. This means that the nesting season for falcons is over by July 4th. By studying the graphs of the two populations, ideas about what effects certain events have on the populations are developed.

Procedure: Discuss the area where the raptors live and what the falcons and ground squirrels look like. What do these animals eat? Show the class a graph of the populations of the prairie falcons and the squirrels. Arrange the class into small groups; ask them to

> discuss reasons the graph might look like it does. Explain or read the back ground to the class then have the groups look at the other graphs and discuss how this information affects the population of the falcons and the squirrels. Ask the groups what aestivation means and why it is important to the ground squirrels. How does it affect the falcons? What impact does the temperature have on the populations? What about wind speed? Will that affect the temperature? What if the falcons don't breed early enough? Ask the students to think of other examples of cause and effect relationships like this. Have the students discuss animals from

Wind Cave National Park or their local area that illustrates these cause and effect relationships.

